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RERAILING

BY

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ABSTRACT: RERAILING

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On Chicago's Metropolitan Rail system (Metra), the conventional commuter rail station remains configured much as it did when it served commuter suburbs of the late 19th century. The contemporary commuter station, however, now operates within a diffused suburban landscape. As the suburban fabric has loosened itself from the rail corridor, so have the workplace and workday crept beyond the nine-to-five office routine of the industrial era. This commuter station is therefore reconsidered not only for a loosened suburban landscape, but also for a commuting culture which seeks to optimize time. By means of strategic siting and consideration of the suburban landscape, this station renegotiates the automobile and train and the gap between them. This physical and temporal gap becomes a site for the amenities of work and home. Configuration of the whole captures a density of activity which which expands and contracts in response to the cycles of commuter traffic.

ACKNOWLEDGEMENTS

At the close of my career as a student, I owe profound gratitude to my parents for their constant support, encouragement and prayers. In this thesis endeavor, I am indebted to Mark Wamble, my advisor, for channeling my interests and guiding me toward an understanding of architecture beyond my own expectations. To my readers, Albert Pope and Spencer Parsons, I offer my sincere gratitude for their keen insights and timely criticism.

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COMMUTER RAIL CHICAGO

The conventional commuter rail station remains configured much in the same way it did when it served commuter suburbs of the late 19th century. As a simple structure situated along the right of way, the modest ticket office, waiting room, and track side platform adequately served small pedestrian-oriented railroad suburbs. The contemporary commuter station, however, now operates within a diffused suburban landscape ordered not by the rail corridor, but by the automobile. In the case of Chicago's Metropolitan Rail System (Metra), any station in the outlying suburbs serves sprawl many times the area that early stations did; commuters must now drive some distance to access the rail corridor.

As the suburban fabric has loosened itself from the rail corridor, so has the culture of work crept beyond the nine-to-five office routine of the industrial era. Technologies that allow tasks to be completed outside the office have blurred the boundaries of the workplace and the workday. Leisure activity, by contrast, seems to have become more deliberate and planned. Transportation assumes a prominent role in the dispersed activity of work and home.

The commuter station stands—both physically and operationally—between the historically monocentric system of rail and the newer polycentric fabric of the suburbs. Chicago's Metra system offers insight to the current disjuncture between the operation of each system—a disjuncture not only of traffic mode, but also of time. The physical gap between the automobile and the train parallels the temporal gap between a collection of individual schedules and the regularized time-table of mass transit. Therein lies a potential for transformation of the station; i.e. this gap, into a site for the amenities of contemporary work and home. The conventional station configuration is therefore ready for reconsideration not only for a loosened suburban landscape, but also for a commuting culture which optimizes time with FedEx, laptop Macs, child care and planned leisure. The following discussion of both the physical and operational situations of Chicago's commuter rail system are therefore intended to inform the proposal for a reconsidered station. An examination of commuter rail within the contemporary landscape will therefore proceed with discussion of both the early commuter suburb and the present sprawl.

COMMUTING AND THE RAILROAD SUBURBS

Although the notion of living outside the city center (while remaining within reach of its amenities) preceded the American phenomenon of suburbanization, the proliferation of the idea and the means to achieve it came with the industrial revolution, and more specifically, with the steam railroad. I therefore begin my examination of commuting in the era of industrialization.

As machinery and industrial processes transformed the factory, so did they transform the cityscape. In his book *Metropolitan Corridor*, John Stilgoe describes the changes which took hold of many American cities:

"Between 1840 and 1880 American manufacturing evolved from a water–powered, small–scale, rural base to a steam–driven, immense urban one. . .Companies consequently sold old–fashioned factories and relocated to suburban locations capable of supporting vast horizontal works. Changes in factory design and siting occurred so rapidly that few Americans fully understood the national effect. . .(Stilgoe 1983, 81)"

As horizontally organized production grew ever farther from the city center, an industrial belt spread outward and surrounded most major cities. Escaping this environment became desirable to many urban Americans—most of whom worked long days in factories and spent the rest of their time living in dismal slums. In *Crabgrass Frontier*, Kenneth Jackson's chronicle of the suburbanization of the United States, he describes the popular desire for escape of this landscape to the rural setting of the suburbs:

"The image had a growing attraction in a society in which urbanization's underside—the slums, the epidemics, the crime, the anomie—was so obvious and persistent a problem. The suburban ideal offered the promise of an environment visibly responsive to personal effort, an environment that would combine the best of both city and rural life and that would provide a permanent home for a restless people (Jackson 1985, 72)."

Lewis Mumford argues that the early suburban setting, and more specifically, the act of commuting, offered relief and counterpoint to the urban condition. "Indeed, part of the esthetic

value of the suburb, its special psychological virtue, springs from the daily shuttling to and from the city, with its alteration of openness and enclosure, freedom and constriction, easy movement and clogged traffic, spaciousness and overcrowding (Mumford 1961, 488)." While commuting has often connoted traveling between home and place of business, Stilgoe assumes a broader definition: *commute* meaning to mitigate or lessen, and in his opinion, lessening the difficulties of urbanization and corporate capitalism (Stilgoe 1988, 5).

Jackson argues that the railroad suburb supported a socioeconomic diversity. As the cost of commuting to the city was prohibitive for the average member of the laboring class, many found jobs in services for the middle class and thus resided in these suburbs without commuting at all (Jackson 1985, 99). For the upper class, the commuter suburb offered the opportunity to renew the exclusive neighborhood setting which was eroding at the city center. In many cities, increases in property values near the central business district prompted speculators to buy large homes and subdivide them into apartments for working class tenants. Jackson explains that for many of those families who owned such homes, this transformation of neighborhoods caused their property to become less appealing as it became more valuable (Jackson 1985, 90).

The proliferation of suburban living during the industrialized era of American cities might be too easily explained as a reaction to smokestacks and slums. Lewis Mumford argues that the magnetism of rural living appealed to deeper notions of individual liberty. He quotes Alberti's own treatise on building in the matter of suburban living: "There is a vast deal of satisfaction in a convenient retreat near the town, where a man is at liberty to do just what he pleases. . . I, for my part, am not for having a [villa] in a place of such resort that I must never venture to appear at my door without being completely dressed." Mumford goes on to explain that it was the freedom to do as one pleased within one's own house which stimulated desire for escape. "In short, to withdraw like a monk and live like a prince—this was the purpose of the original creators of the suburb. They proposed in effect to create an asylum, in which they could, as individuals, overcome the chronic defects of civilization while still commanding at will the privileges and benefits of urban society (Mumford 1961, 485-486)."

As a retreat from tenement living or as the desire for a private castle, home ownership assumed priority for most suburbanites. Tending to the needs of one's own property—especially those of gardening— resonated with traditional respect for agriculture and the fulfillment gained by

working one's own land. Gardens thus became very popular among suburbanites, and more broadly, interests of property maintenance and home improvement preoccupied the newly landed bourgeois. Stilgoe describes this preoccupation as reflected in the content of the popular press of the early twentieth century:

> "*Suburban Life, Country Life*, and other new periodicals reoriented the content of older magazines like *Horticulture* and *Ladies' Home Journal* and stimulated changes in journals like *Home and Garden*. Urban newspapers learned to report suburban news or risk losing commuter readership. Within a few years of the founding of large railroad suburbs, newspaper editors perceived the necessity of providing columns on gardening and home improvements, matters about which commuters loved to read (Stilgoe 1988, 269)."

Private gardens, pleasure reading, and personal interests and hobbies all indicate a trend which came with disposable time and income; commuters focused attention on leisure activity. Aristocratic suburbanites organized country clubs to socially sanction outdoor physical activity and often to distinguish themselves from the laboring class. While a compelling natural setting may have stimulated organization of many country club games such as cricket, lawn tennis and golf, Kenneth Jackson observes that leisure became an end in and of itself. As tennis courts and golf courses became manicured versions of a natural setting, compulsive play replaced compulsive work for those who found themselves possessing increasing amounts of leisure time (Jackson 1985, 99).

While the effects of industrialization largely induced the desire to live in the country, it was, ironically, the smoking monster of the steam railroad which compressed time and collapsed distances to make verdant settings accessible to large numbers of people. In Chicago, suburban living became quite popular in the second half of the nineteenth century. As in many other cities, urban businessmen typically organized railroads. Rail routes called "trunk lines" therefore originated in the city center and opened markets in outlying towns. By 1870, Chicago had become the nation's railroad hub served by the Santa Fe; the Chicago and Northwestern; the Chicago and Milwaukee; the Rock Island; the Burlington; and the Illinois Central, among others (Jackson 1985, 92). The infrastructure therefore existed to support the trend of suburban development. The rail lines which originally connected existing towns to the city center soon became spines along which suburbs developed. By 1873, Chicago had approximately 100 suburbs—more for its size than any other city

in the world. At that time, approximately 5,000 commuters rode into and out of the city on about 100 trains. By 1890, suburban population had grown to 300,000 and the number of commuters had grown to about 70,000 (Jackson 1985, 93). Both before and after the Chicago fire, the presence of eleven major rail lines fostered much land speculation. Railroads encouraged ridership by reducing, or "commuting" ticket prices for regular riders. They also operated special trains to outlying communities (Stilgoe 1988, 142).

John Stilgoe, in his book *Borderland*, attributes much of Chicago's suburban growth to the Chicago Fire. Much of the displaced industry, and thus many workers, remained at the peripheral locations which had served as temporary settings immediately after the fire. Often, this land was cheaper and offered more potential for expansion than that in the center. Many poorer Chicagoans settled outside the city when a strict new fire prevention ordinance forbid construction of frame houses in Chicago (Stilgoe 1988, 142). With the recent proliferation of rail lines radiating from the city in every possible direction, the railroad made such large scale relocation possible within a relatively short time.

The railroad fostered a significant shift in population distribution. Perhaps as important as numbers of people who moved to the periphery, however, was the pattern of settlement which the railroad made possible. Jackson describes such as influenced by operation of the steam train:

> "Steam engines were difficult to both start and stop; unlike the horse car or later the electric streetcar, the steam engine generated speed slowly. The practical result of this limitation was that railroad suburbs were usually discontinuous and separated by at least a mile or two of open space or greenbelt from each other. The typical pattern was for them to develop like beads on a string; the towns themselves were connected by the railroad line but were not initially contiguous either to each other or to the central city (Jackson 1985, 101)."

For a short time, these sizable greenbelts allowed for suburban living to remain consistent with the intent of retreat to a natural environment (Mumford 1961, 504).

Early commuter suburbs developed with an immediate adjacency to the main line. Since only the very wealthy could afford the carriage and driver necessary to truly live in the country, most early suburbanites necessarily lived within walking distance of the station. Mumford claims that the railroad stop and walking distances gave these early suburbs form. Concentrations of shops

and businesses around the station produced a kind of market area, while residential districts developed immediately beyond (Mumford 1961, 506). Those of the laboring class who did not live in servant quarters on the estates of the wealthy usually lived in the small dwellings found close to the station. Jackson claims that demographics of railroad suburbs tended to duplicate the class–related spatial patterns of the core cities; the poorest inhabitants lived closest to the tiny business districts while the more affluent residents lived on larger landscaped grounds at the periphery (Jackson 1985, 101). Dependence on one train stop usually limited population to about 5,000 residents; commuter suburbs rarely exceeded 10,000 (Mumford 1961, 504).

As commuter suburbs and small towns grew dependent on the main line, the train station assumed importance as the gateway to the corridor. To the commuter, it served as a node between the "home town" and the realm of the railroad——and ultimately that of the city center. To the railroad, it operated as a working building, usually housing a ticket agent, telegraph office, and sometimes even the switching facilities necessary to regulate traffic along the right of way. To the greater community, it stood as a civic structure—the first and last building seen upon entering or leaving the place and—by default—an emblem of the community. To all parties, it was usually a worthy recipient of architectural embellishment.

Programmatically, the commuter station was very simple. A small waiting room, ticket office and covered platform were usually sufficient to serve commuters. Waiting rooms had to offer access to both the platform and the street (Stilgoe 1983, 197). Several designs featured a port cochere for the arrival of carriages. The railroad company usually required a tower to give the attendant visual command of the tracks. Sometimes railroads appended a freight shed to the main structure, in which case station became known as a combination station (Grant 1993 22).

Railroad companies often situated commuter stations within landscaped gardens. Drawing upon the psyche of the suburbs as rural retreat, an elaborate station garden not only enhanced the site, but also hid many of the track side structures and other industrial elements of the right of way (Stilgoe 1983, 230). It served as a pleasant setting for those waiting for the train and those waiting on the train. It often served as park for the surrounding community. In the early 1900's, a debate about station gardens arose within the community of landscape designers and patrons. The debated

issue asked for whom gardens existed; passengers on the train or townspeople and other non-train viewers (Stilgoe 1983, 238)? The debate generated varying garden configurations and sometimes prompted cooperation between railroads and municipalities regarding issues of maintenance, but it also articulated the situation of the station as belonging to both proprietary and civic realms. Given this brief overview of early commuter suburbs, I now turn the discussion toward the station within suburban sprawl.

As the form and operation of the early commuter suburbs were intimately connected with operation of the railroad, so did proliferation of the automobile change the suburban landscape. With settlement no longer bound by walking distances, the greenbelts were soon thickened with traffic in a landscape of widely spaced buildings set among paved roads and parking lots. In his essay "Railroad Line, Greenbelt, Motor Sprawl," Lewis Mumford describes and condemns the transformation of the suburbs:

"As soon as the motor car became common, the pedestrian scale of the suburb disappeared... the suburb ceased to be a neighborhood unit: it became a diffused low-density mass...suburban sprawl has become dependent upon a single form, the private motor car, whose extension has devoured the one commodity the suburb could rightly boast: space (Mumford 1961, 506)."

Kenneth Jackson attributes the ascendancy of the automobile to its perception by the public as a common good. Indeed, the government subsidized roads as a public amenity at the same time that it considered mass transportation corporations to be private enterprise. Taxation, mismanagement, and laws regulating fares caused many transit companies to fail. Mass transit was often considered an impediment to faster vehicular traffic, and General Motors made a concerted effort to buy floundering public transportation systems and replace them with cars and buses. "The misguided and unfortunate result of such thinking was that the car would become a prerequisite to survival (Jackson 1985 171)."

Not only did the promise of privately owned automobiles engage the popular imagination, it also enticed the entrepreneurial eye of corporations who stood to make huge profits from a national road system. Jackson cites General Motors, the Automobile Manufacturers Association; trucking companies; state-highway administrators; oil, asphalt, and rubber industries as but a few of those who lobbied heavily to push the paved road agenda (Jackson 1985, 248). In 1954, the Interstate Highway Act made provision for a 41,000 mile highway system.

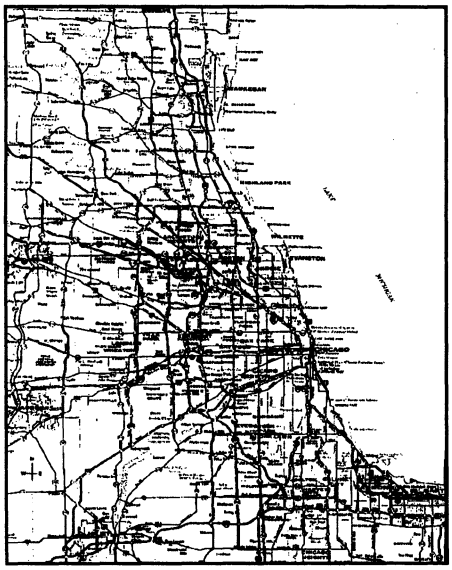
"President Eisenhower gave four reasons for signing the measure: current highways were unsafe; cars too often became snarled in traffic jams; poor roads saddled business with high costs for transportation; and modern highways were needed because 'in case of atomic attack on our key cities, the road net must permit quick evacuation of target areas (Jackson 1985, 249).'"

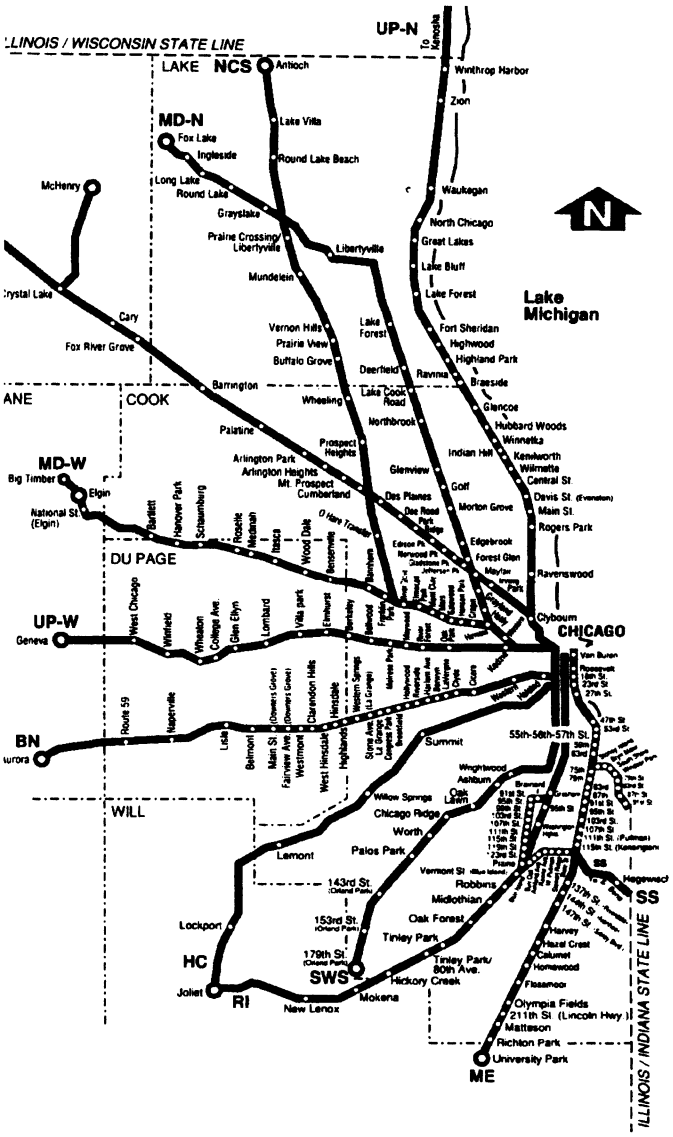
Little attention was given to the effect of such a roadway on the national landscape or the culture of sprawl which would come with it.

Although the commuter railroad enjoyed popularity into the 1950's, the flanged wheel would also succumb to the rubber tire. Commuter rail enjoyed its golden age during the 1920's. While ridership decreased during the Depression, the major cities in the East and Midwest enjoyed inexpensive and frequent service until the 1950's. Jackson describes the demise of them: "Bankruptcy and deteriorating service were the inevitable result of a national transportation policy that subsidized air and automobile travel and that taxed the railroads. By the mid-1980's, only a handful of cities—including New York, Boston, Chicago, and Philadelphia—could boast of impressive railroad-commuter traffic (Jackson 1985, 171)."

Necessity of movement within the suburb and from suburb-to-suburb further marginalized commuter rail. As suburbanites consumed less in the urban center and more locally, suburban living did not require regularly scheduled trips downtown, but rather, short and frequent local errands. The act of commuting itself required a drive to the station, and the station was forced to accommodate not the pedestrian, but the automobile. (In the 1960's, the "kiss and ride" became a popular term for the stations at which businessmen were dropped-off by their wives) (Stilgoe, Borderland 3). An understanding of the development of Chicago's rail system offers insight to the difficulty with which the monocentric system of the railroad meets the polycentric fabric of the suburbs.

Passenger rail in Chicago, from its beginnings, primarily operated on existing freight corridors. These corridors, many of them constructed in the late 1840's and early 1850's, radiated to the north, west, and south of Chicago to connect the city to outlying towns. Such a rail line serviced the westward lying town of Aurora as early as 1850 (Metra 1995, 2). Railroads were generally preoccupied with conducting freight traffic to outlying cities and towns; passenger service was often an incidental operation of the company (Kunz 1992, 8). Since the freight railroads did not usually





upper left: development of railroad suburbs along existing rail corridors (Metra).
lower left: highway plan of greater Chicago area.
right: Metra routes.

pursue an agenda of initiating broader suburban development, the commuter rail system did not develop many branch lines from the trunk lines. Branch lines on the current Metra system are virtually non-existent.

With the absence of such branch lines on the Metra system, each station on the main line now serves a broad area of sprawl rather than the one immediate suburb which it once did (Murphy 1994). Outlying suburbs now suffer a scarcity of stations relative to the area served, and driving has become a necessary component of the rail commute. As the station faces the challenges of accommodating the automobile, parking becomes a problem. Those stations contemporary to the right of way—usually closer to the city center—find themselves situated in development that does not readily handle the droves of commuters which now arrive in cars. Parking lots have been appended and expanded to existing stations, usually at the cost of paving over original station gardens (Stilgoe 1983, 341). Accessibility usually remains limited and parking capacity inadequate. Such difficulties often prohibit commuters from taking the train (Miller 1996). (Metra has expanded station parking lots to add nearly 18,000 new spaces since 1988. Most lots are parked to capacity. Metra has even initiated a Joint Use Parking Program in which churches or social clubs near the station allow unused weekday parking spaces to be metered to rail commuters) (Metra 1996). Those newer stations in the outlying sprawl, although more accessible, retain the conventional configuration of waiting room and platform but now sit within a vast sea of pavement. Maximization of parking typically motivates the site planning of new commuter stations, and configuration of the whole generally remains uninspired.

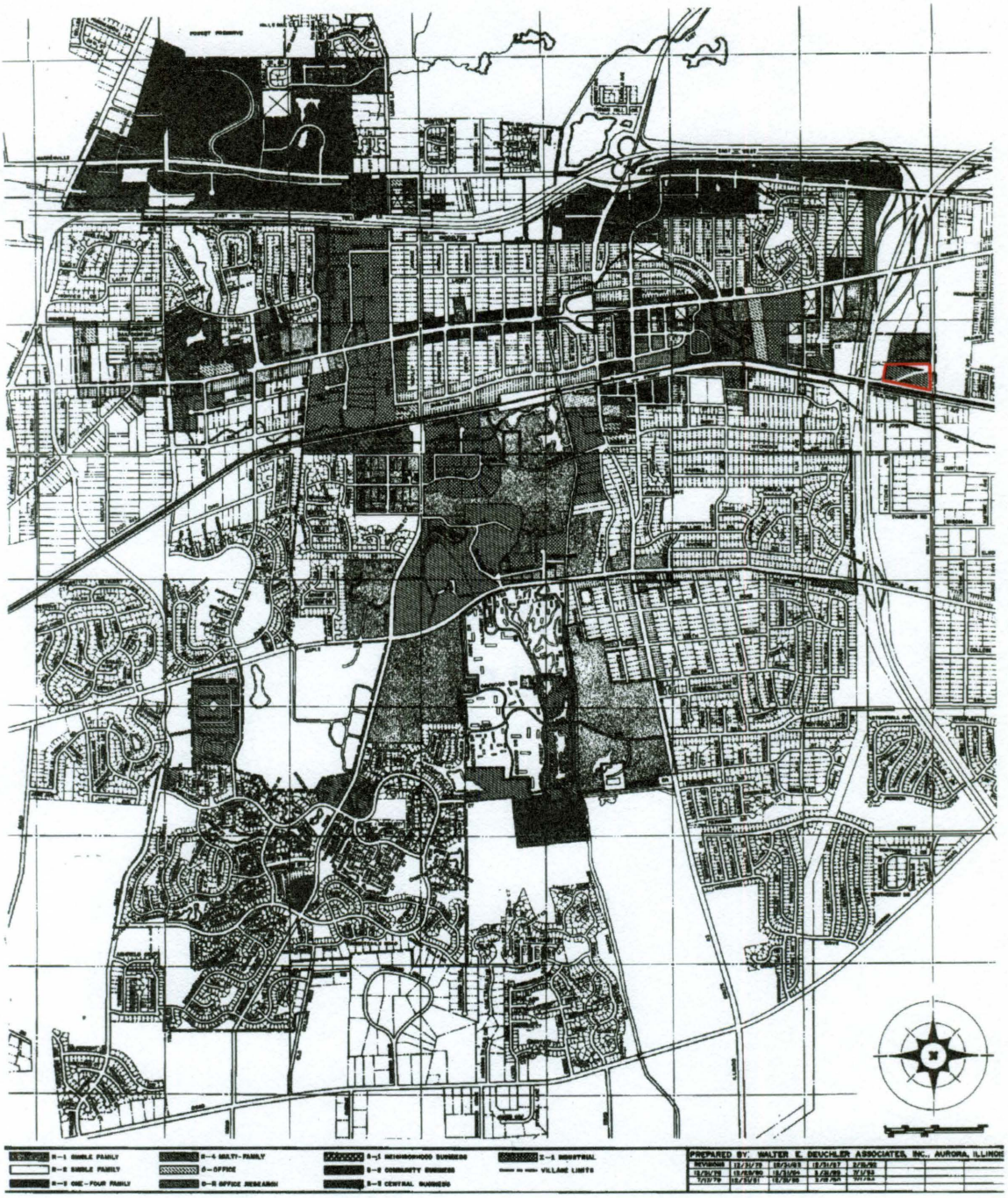
In spite of the problems associated with the automobile, commuter rail in Chicago remains a viable means of commuting to and from the city center. The Metra system ushers 140,000 commuters each rush hour—a volume second only to that of New York City (Miller 1996). Yet even in those suburbs with a proportionally large ridership, such as Lisle Township to the west, census data reveals that nearly ten people drive alone for every person that rides the train (census 1990). The popularity of driving would seem curious since the cost of riding the train is not prohibitive compared to the cost of operating an automobile. Moreover, riding the train liberates one's time and attention from snarled rush-hour traffic. However, the present configuration of the Metra system constricts its effectiveness. In spite of the recent efforts of expanding parking space, many existing Metra stations find themselves locked within existing development that does not offer a number of

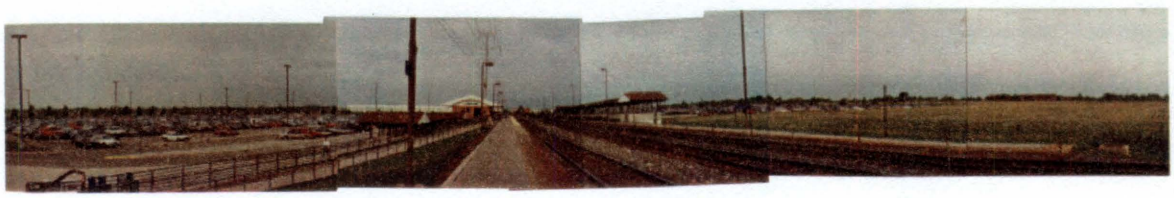
parking spaces commensurate to the capacity of the rail system. Metra polls indicate lack of parking as the single most prohibitive factor which prevents driving commuters from taking the train (Miller 1996). Moreover, the lifestyles of contemporary commuters require increased attention to personal concerns; child care, meal preparation, and the suburban pursuit of leisure—among other concerns—gravitate toward the independence afforded by the automobile.

Metra has considered its role within the greater Chicago area and developed a plan called FAST— the Future Agenda for Suburban Transportation. The plan is extensive and includes goals of increased parking, improved signaling, faster train speeds, and about one half more track length as that of the present system. Metra also looks to add approximately 100 new stations to serve 50 communities not presently served by Metra. Many of these communities lie on the periphery of suburban expansion; hence Metra's ambitious goal of "50 miles in 45 minutes" (Metra FAST 1992). Metra also intends to offer commuter rail service on the existing freight corridor of the Elgin, Joliet, and Eastern Railroad (Miller 1996). This corridor runs circumferential to the city center and intersects five of Metra's existing radial spokes (Metra 1995, 7). By adopting this route into its current system, Metra intends to operate, for the first time, suburb-to-suburb rail service.

Recent construction of the North-South Tollway 355 in the western suburbs of Chicago reveals this increasing pattern of circumferential movement—movement necessary not only for rail commuters, but also for those who drive downtown. This tollway crosses the highways which radiate from the center: the Northwest Tollway, the Eisenhower Expressway, and the Stevenson Expressway. Highway 355 thus acts as a ring of the "spider web" configuration which the highway system is beginning to resemble. It not only facilitates traffic between western suburbs—especially in the rapidly expanding far southwest side—but also conducts commuters to and from these radial highways. It does, therefore, also intersect several of the existing radial rail corridors.

With siting adjacent to this tollway, a commuter station could directly receive large volumes of rail commuters from the highway system in a way that the existing stations cannot. Metra has indeed studied the possibility of locating a station at 355 and the Burlington Northern Route, and has begun to develop plans for a station there (Ewers 1996). The Burlington Northern Line is one of Metra's busiest, with about 50,000 commuters riding on 86 trains per weekday (Metra 1996, 37). Since this corridor has three sets of tracks running continuously from Chicago to Aurora, heavy train traffic (both freight and passenger) is more easily handled than on some of Metra's other





upper: Lisle: station site at Tollway 355 and the Burlington Northern.

lower: Cornfield station: route 59 and the Burlington Northern.

routes. Even with 19 stops between this location and downtown Union Station, the multiple sets of tracks allow express passenger trains and slow freight trains to run past those stopped at intermediate stations; travel times are kept to a minimum even for those commuters riding to outlying suburbs (Miller 1996). A new station at 355 holds promise because nearby stations at Lisle and Belmont have been expanded to capacity; because demographics of these western suburbs indicate that ridership could grow if the corridor were made easily accessible; (Anderson 1992) and because the site adjacent to the tollway has already been purchased by Metra.

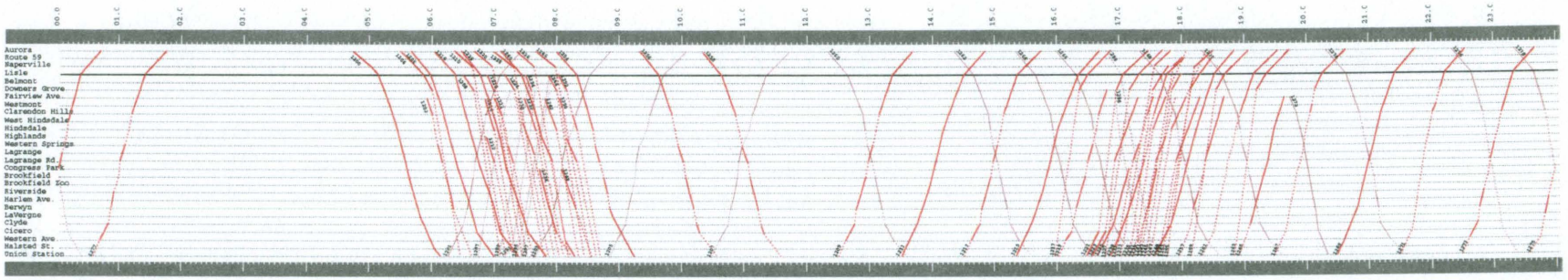
Siting of a station next to a major automobile thoroughfare is not without precedent on the existing system; Metra has constructed a station where route 59 crosses the Burlington Northern line. The station handles the large number of commuters from western towns of Naperville and Aurora. This station, called a "cornfield station", is situated in an undeveloped area between the two towns, since expansion of the stations in either town was not feasible. It thus remains easily accessible and parks about 1300 cars (Middleton 1994, 61). The cornfield station, however, retains a conventional station configuration set within a sea of pavement. Configuration of the whole is ill suited to the contemporary culture of commuting. It is therefore with a view to this culture and the planned additon of a station to the Metra line that subusequent investigation is the proposal for a reconsidered station.

RERAILING

Although accessibility and parking assert themselves as immediate needs for the operation of commuter rail within suburban sprawl, a more comprehensive examination of suburban culture warrants attention if one is to reconsider the commuter rail station. As the present state of commuting implicates the automobile, errands necessary within the drive to and from the workplace are accommodated within this reconsidered station. That is, the gap between car and train—indeed the gap between an individual schedule and the regularized timetable of mass transit—is invested with the same opportunities and amenities now scattered throughout the suburbs and across the clock. While sucha density of amenities liberates time from the already hurried pace of commuting, this station attempts to redeem that time in a manner relevant to the contemporary suburbs. It therefore accommodates leisure activity to foil the routine of daily business. As such, its prairie site is brought into the circuitry of commuting.

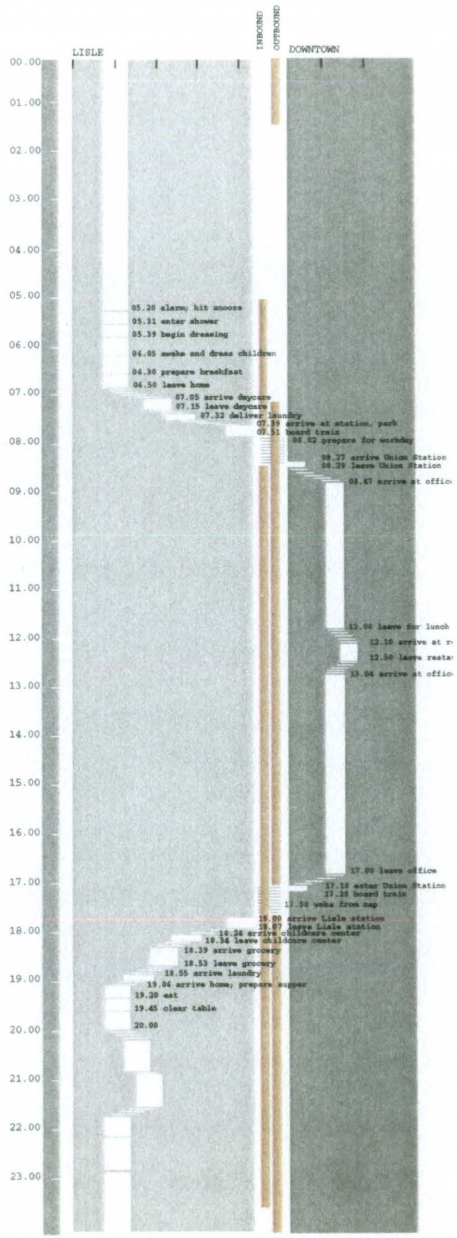
Consideration of Metra's Burlington Northern line and the suburbs it serves offered insight to operation of Chicago's commuter rail system. An analysis and graphic representation of commuting cycles--both the microeconomies of individual commuters and the macroeconomy of the entire rail line--provided insight toward redeeming time from the existing system. Based upon this research and several constructed scenarios, several amenities relevant to the contemporary culture of commuting were proposed for the station. Design of a kiosk to contain each amenity elicited the architectural implications for proposed transactions.

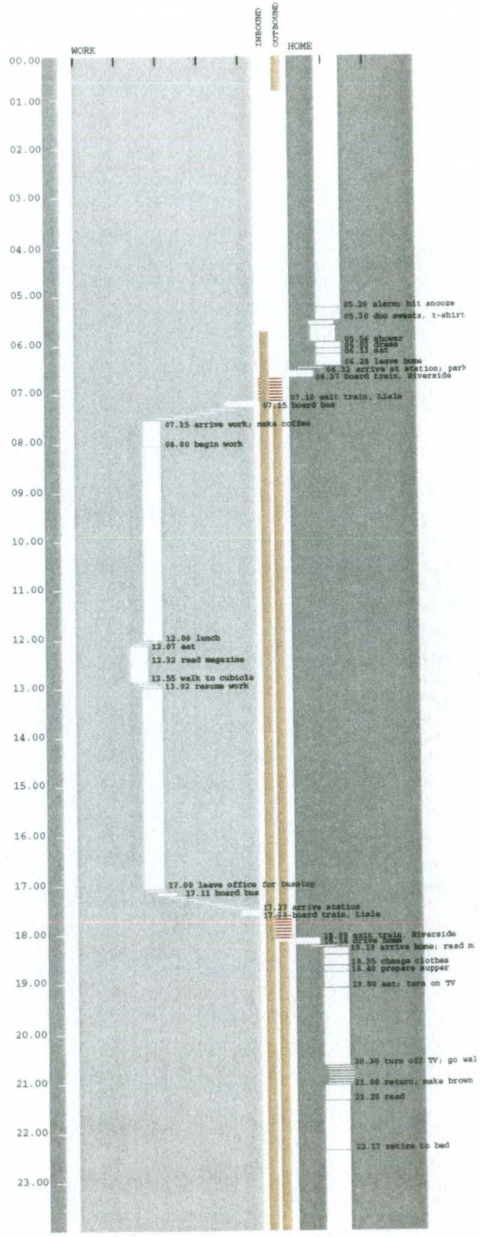
Resolution of the actual station design initially drew upon the traffic paths brought across the site--automobile, bus and train traffic. As bus and auto were brought to the rails and then separated from one another, the station occupied the interstitial space. A layering of the parking deck achieved a density of parking which allowed for a significant portion of the site to remain undeveloped. With a view toward spaces for the various circuits of commuter activity, undulation of a continuous concrete deck accommodated both traffic and kiosks. The deck also allowed circuits of activity to be integrated with the prairie site.



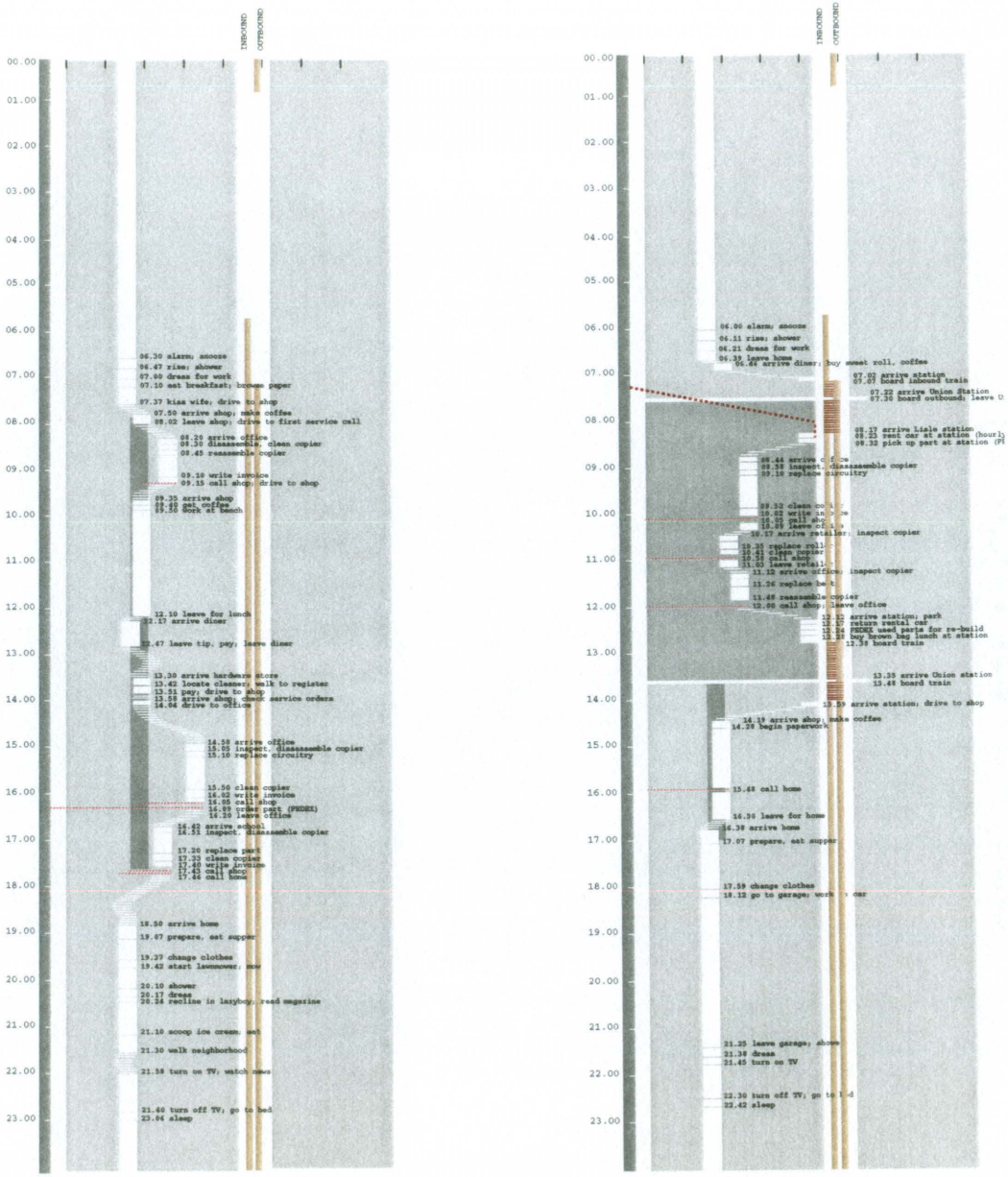
Burlington Northern Schedule. Graphic representation of the BN line on Metra's system reveals not only the density of activity occurring during the rush hours, but also the regular flow of reverse commuting traffic to Aurora. During rush hours, trains depart at an interval of approximately 12 minutes. For many of the trains, the existing Lisle station is the last stop before the train becomes an express. (Inbound trains represented in red, outbound in black. Express mode indicated by dashed line.) The Burlington Northern handles approximately 50,000 commuters per weekday on 86 trains (Metra 1996 Program and Budget 37). A reconsidered station must therefore accommodate not only the density of activity during the rush hours, but also the regular but diffused reverse traffic.

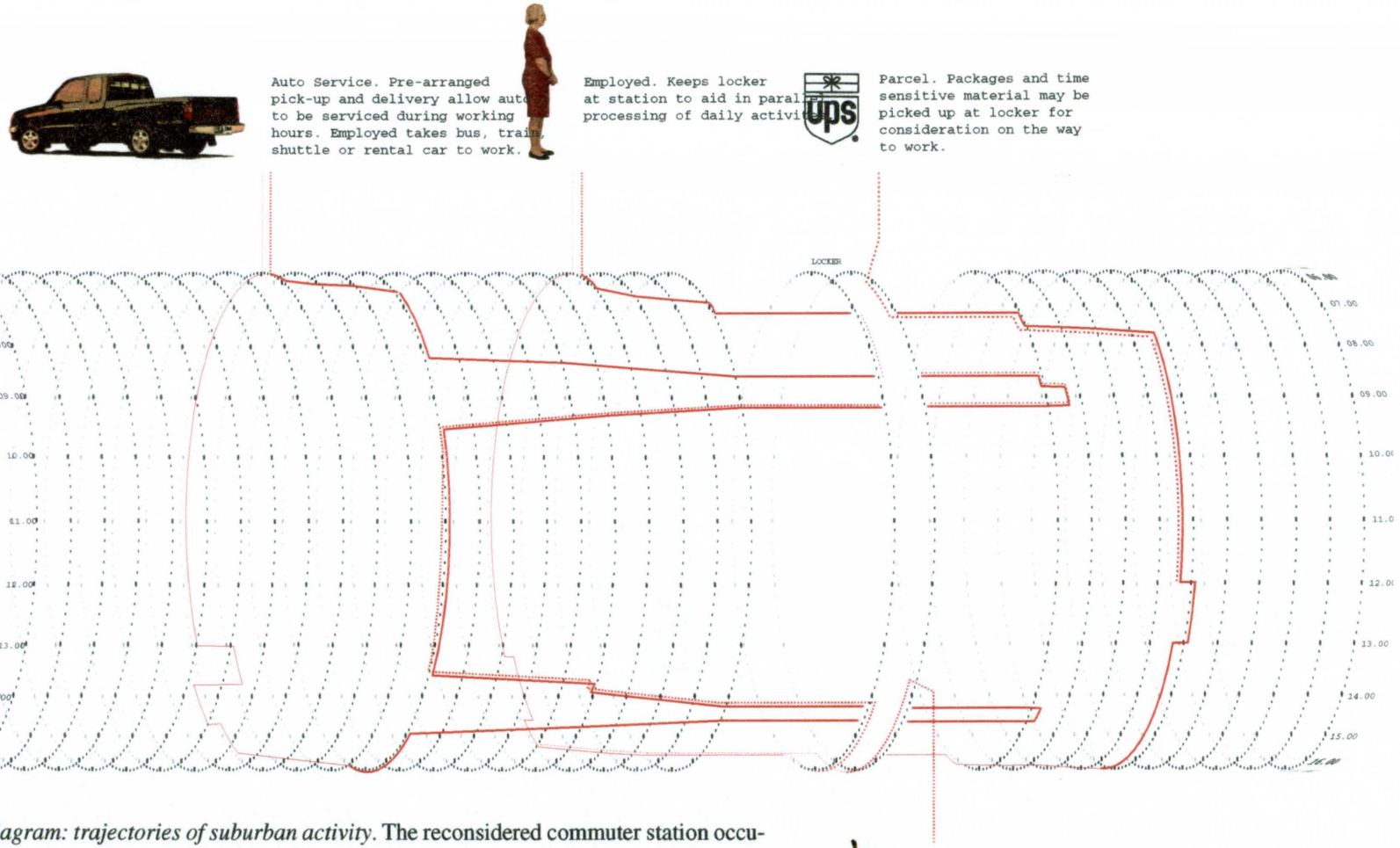
Scenarios 1 & 2. Within the context of commuting on the BN, two scenarios are generated: one for a person taking the train to work in the city center, and the other for a person reverse commuting to one of the many office complexes or research laboratories in the western suburb of Lisle. The vertical axis represents a 24 hour clock. Light gray tone generally represents a suburban environment while the darker tone represents an urban one. For each, the workday remains intact; i.e. time and attention for work are generally contained within 9 a.m. and 5 p.m. and remain at the workplace. Fragmetation of the routine occurs before and after work, and generally during travel between work and home. Time of travel between work and home (and included errands) might last 1 to 2 hours both before and after the workday.Time on the train represents only a portion of the travel time between work and home.



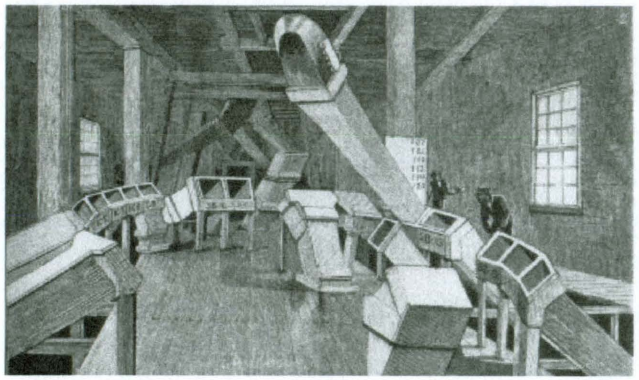


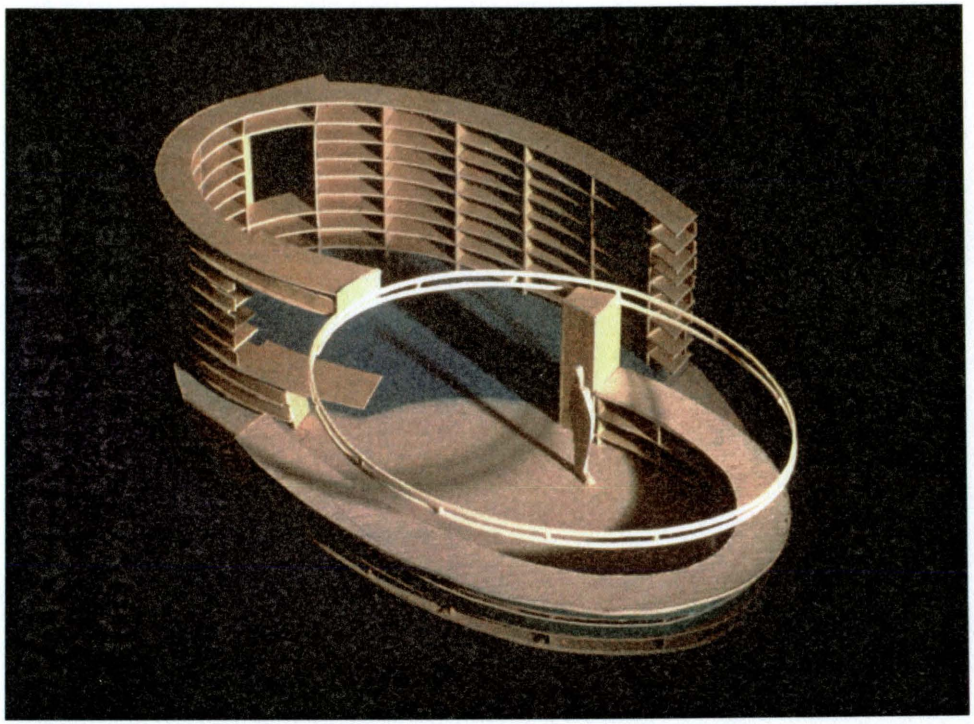
Scenario 3. Within a reconsidered station configuration, commuter rail becomes relevant to those who do not commute on a regular basis. With availability of car rental (hourly) at the station, as well as the ability to send and receive packages and other information (FedEx, email), commuter rail not only crosses the city efficiently, but also of broadens the base of operation from which a business can operate. This scenario, which covers two 24 hour cycles, involves delivery of a package to the station instead of the place of business. This would allow inventory to be liberated from a central location, thus expediting efficient distribution. Moreover, time and attention previously spent driving can be redeemed with techonologies which allow work to be done on the train. Amenities of the workplace displaced from the office can therefore allow for contingent resolution of workday activity.





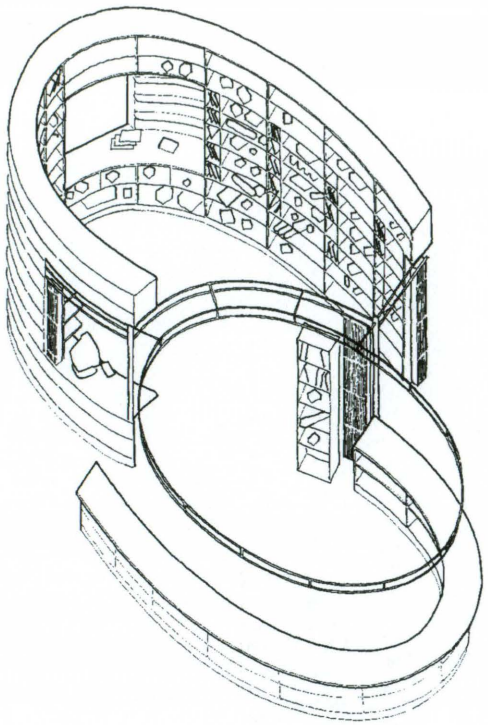
Operational diagram: trajectories of suburban activity. The reconsidered commuter station occupies the physical and temporal gap between the automobile and the train. The station might therefore accommodate--within a discrete location and time period--transactions currently scattered across both the landscape and the clock. In this scenario, a commuter drops off an automobile at the station for pickup by the repair shop. The shop expedites maintnance while the commuter works and then delivers the auto to the station at the end of the day. Economies of scale are gained by the repair shop (or other relevant business) when the scenario is multiplied by several commuters per day. Disposable time is gained by the commuter.

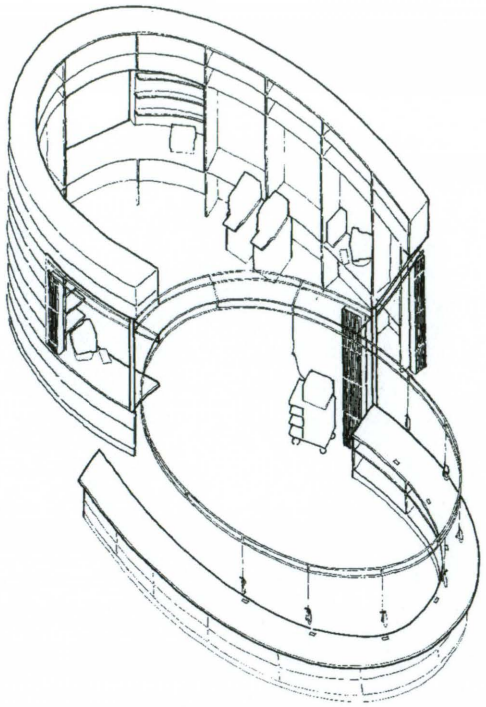


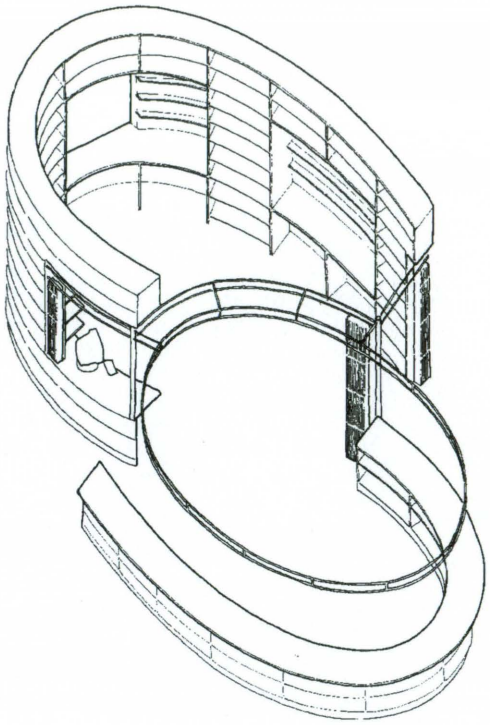


History of commodities. Trading in Chicago provides insight to the relationship between infrastucture and transaction. During the early 1800's, grain dealers spilled samples of grain directly onto the ground in open air markets. With the development of the grain elevator, grain was graded and deposited into the appropriate bin. The depositor received a receipt for the deposit. Receipts soon became a currency in and of themselves, and the network of elevators, shippers and the Board of Trade became an efficient means of transaction in spite of a rather cumbersome commodity (Cronon 1991, 120).

Kiosk. Amenities relevant to the contemporary culture of commuting are provided by "satellite" operation of businesses currently found within suburbia. "Satellites" at the station operate with only inventory (short term) and distribution spaces. Any other operations are executed at the existing location of the business. This kiosk configuration accommodates these basic needs with minimal staffing requirements. Modification of the prototype suits a variety of amenities--amentities relevant to a diverse ridership and the diverse needs of that ridership. Businesses represented at the station gain economies of scale. Commuters redeem time by centrally expediting transactions normally spread throughout the suburbs and across the clock. Freestanding nature of the kiosk allows for strategic placement within pedestrian traffic flows. The station as a whole achieves a density of activity in both place and time.



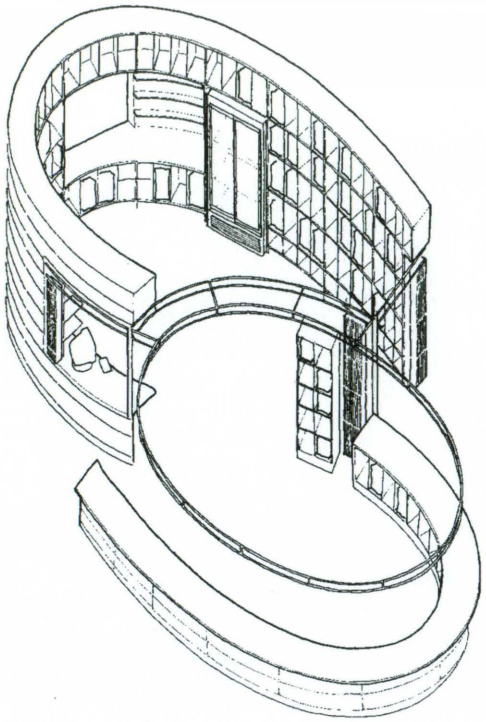


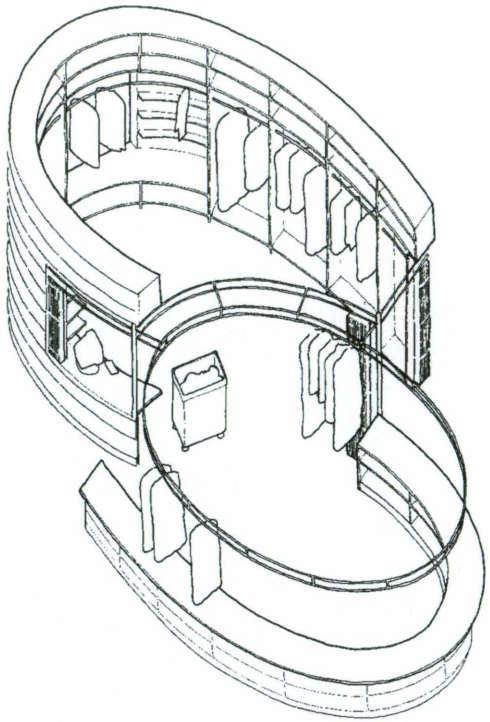


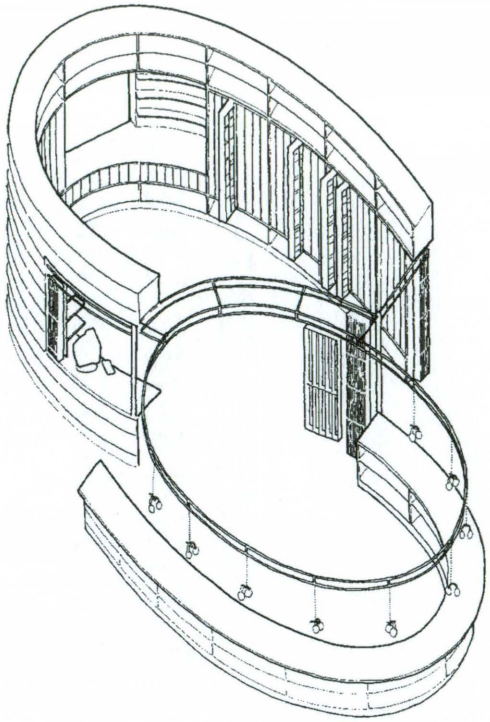
Kiosk: FedEx. Delivery of packages to the station liberates inventory from a central location for those businesses operating over the breadth of suburbia. For those commuting daily, letters picked up at the station may be considered during the train ride, while dropoff becomes independent of the workplace.

Kiosk: copy/computer center. As laptops are widely used by train riders, the ability to print, copy, fax and modem work while away from the workplace allows for a greater flexibility in using transit time.

Kiosk: car rental (hourly). For reverse commuters and those traveling across the suburbs, the train allows the city to be crossed quickly; the availability of a car at the station makes any part of the outlying suburbs accessible. New markets can thus be opened for some businesses as travel both across and within suburbs is easily accommodated without requiring acquisition of additional delivery vehicles.



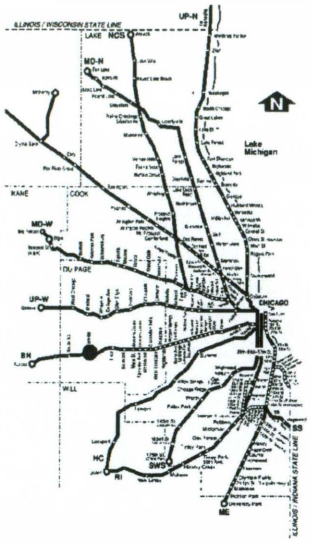


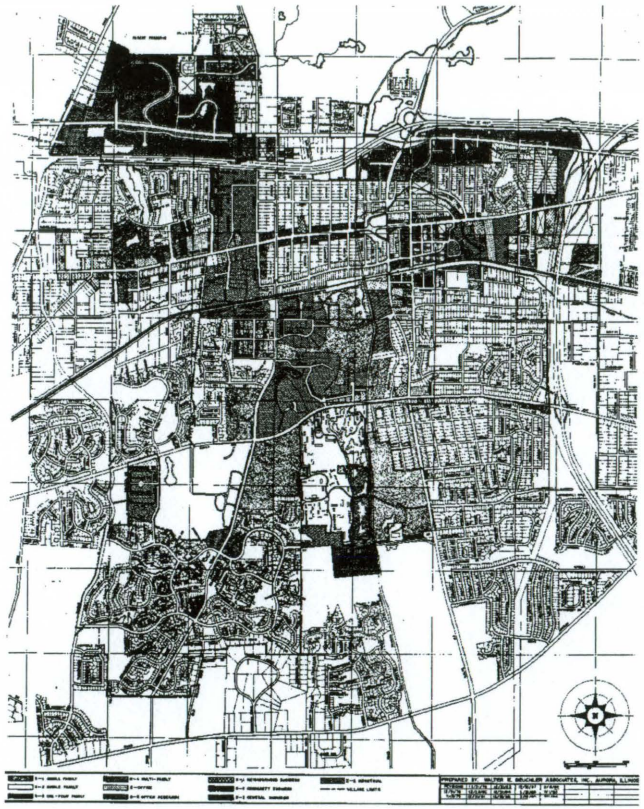


Kiosk: grocer. Errands related to meal preparation and shopping can be accomplished at the station as orders are phoned, faxed, or modemed to the grocer. Pickup occurs on the way home from work. One grocery chain in the Chicago area currently offers such a service for home delivery and could achieve economies of scale by operating from a kiosk at the station.

Kiosk: laundry. Cleaning is delivered and picked up during travel to and from work. Cleaning service benefits from economies of scale as multiple commuters pick up and drop off at one location. (Cleaning is actually performed at existing facility within the suburbs.)

Kiosk: compact disc library. CD's for rent or sale are available for the train ride. Leisure and pleasure activity become relevant to a commuting routine often perceived as monotonous.

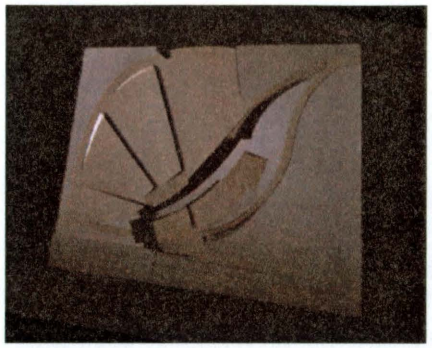


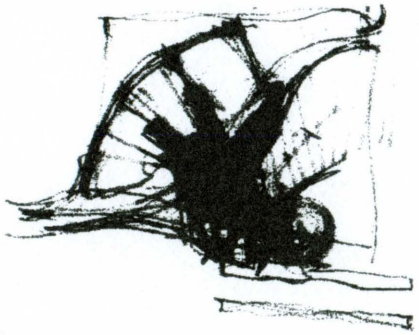


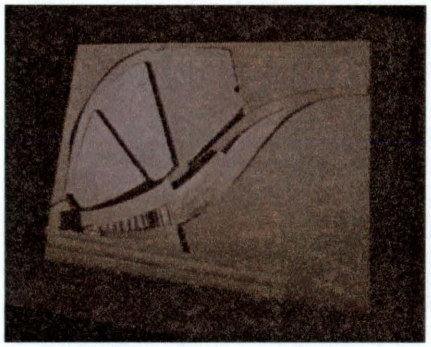
Key plan: Metra System.

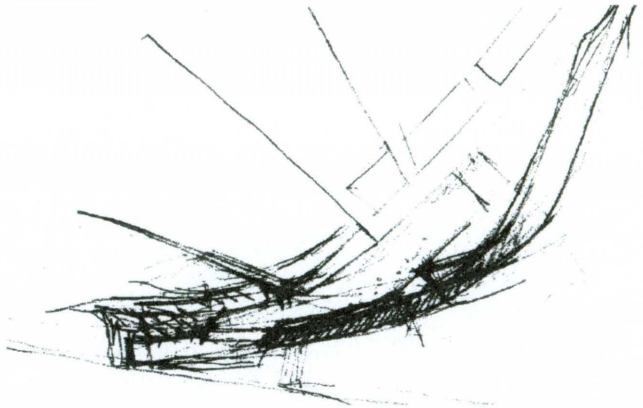
Lisle Plan. The site acquired by Metra lies northeast of the intersection of tollway 355 and the Burlington Northern rail corridor. The site makes commuter rail accessible (via 355) to the expanding suburban area to the southwest . It also allows reverse commuters to access the "research corridor", a zone of laboratories and office parks situated along the East-West Tollway.

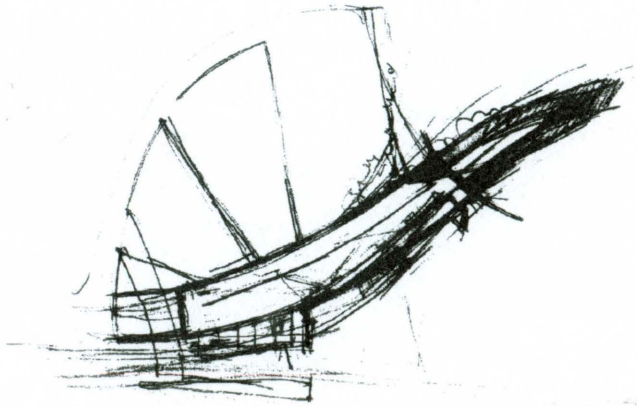
Site. Existing site is mostly wooded. Site is adjacent to one of few remaining indigenous prairies in the western suburbs. Access to be provided from Walnut Avenue. Exit to be provided under highway overpass on proposed road (to be built west under overpass and north to Ogden Avenue).





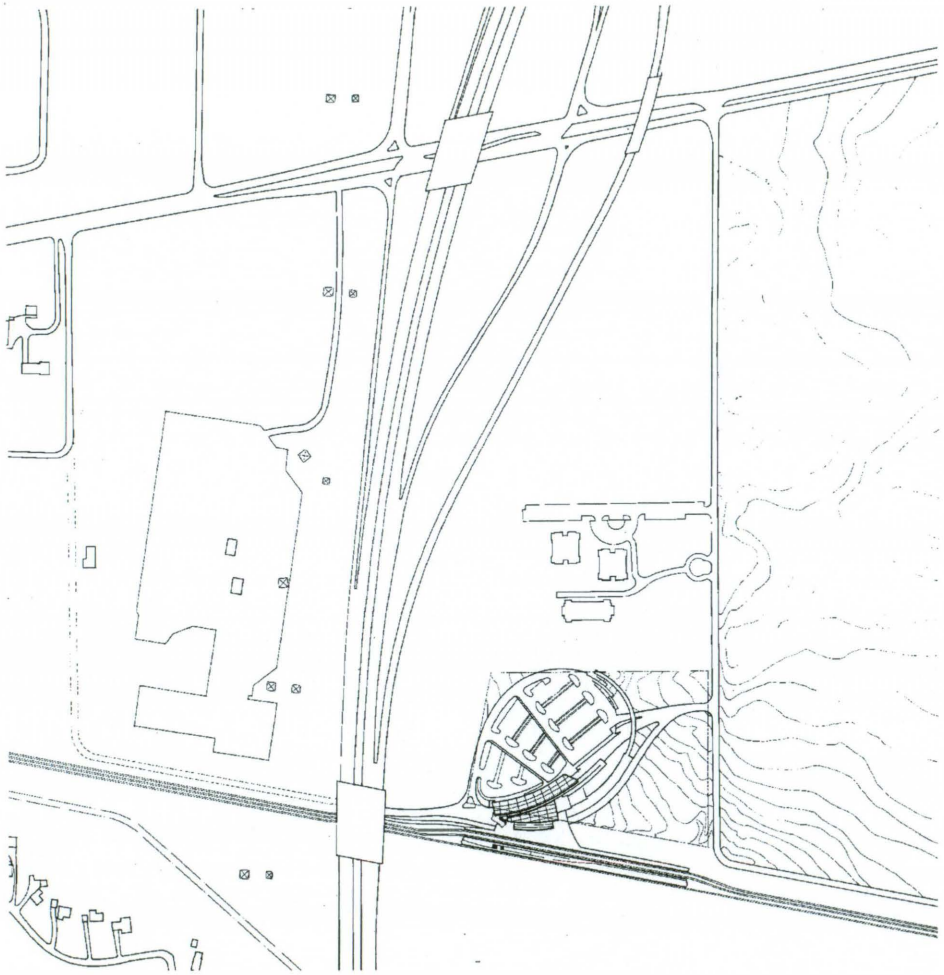




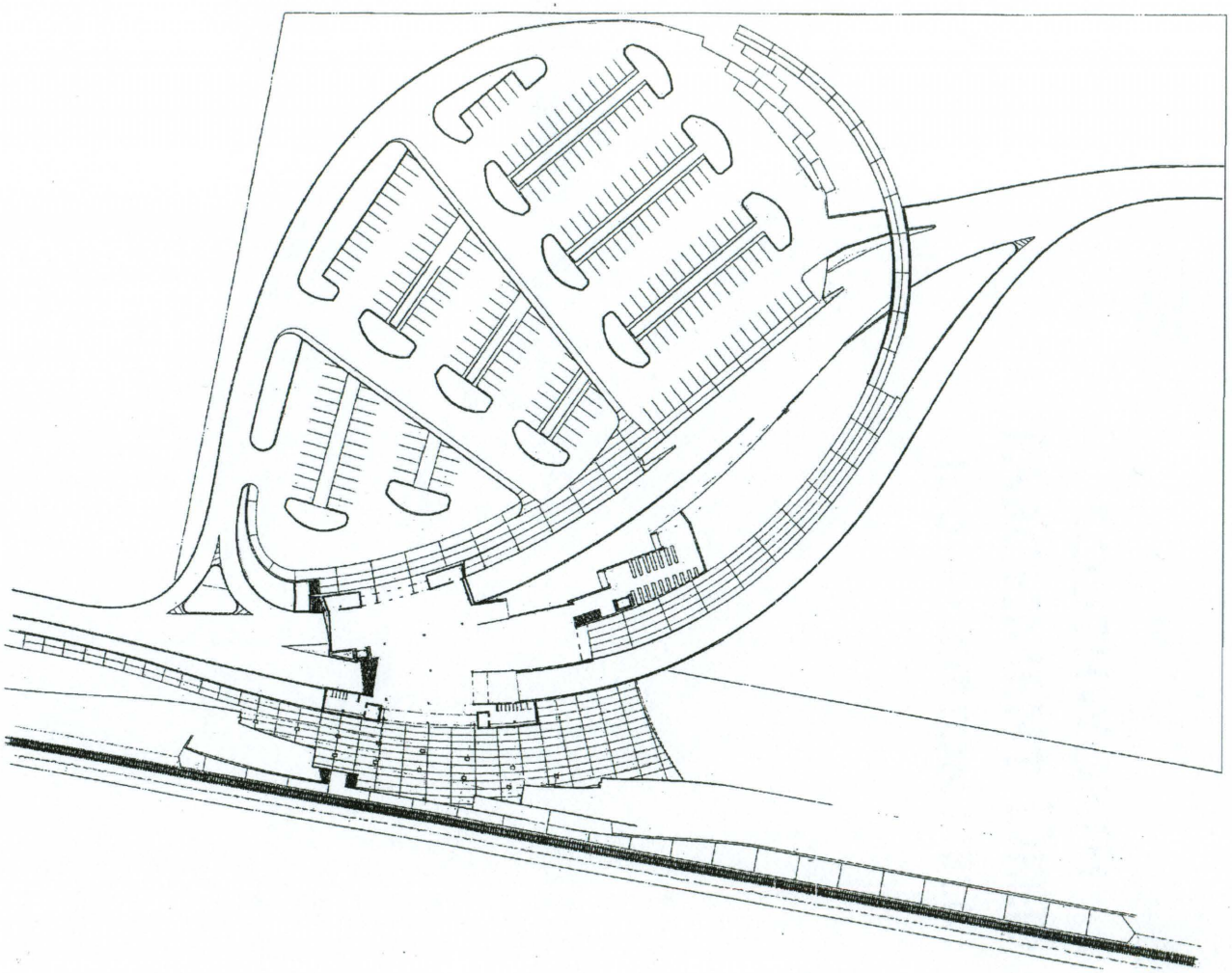


Study models. Layering of parking decks is an attempt to achieve a density of parking. Density of parking allows greater amount of site to remain undisturbed, thus bringing the prarie into immediate contact with the station. The station is intended to occupy space between separated traffic flows of automobile and bus. Models explore station as a concrete deck modified to accommodate these flows of vehicular and pedestrian traffic.

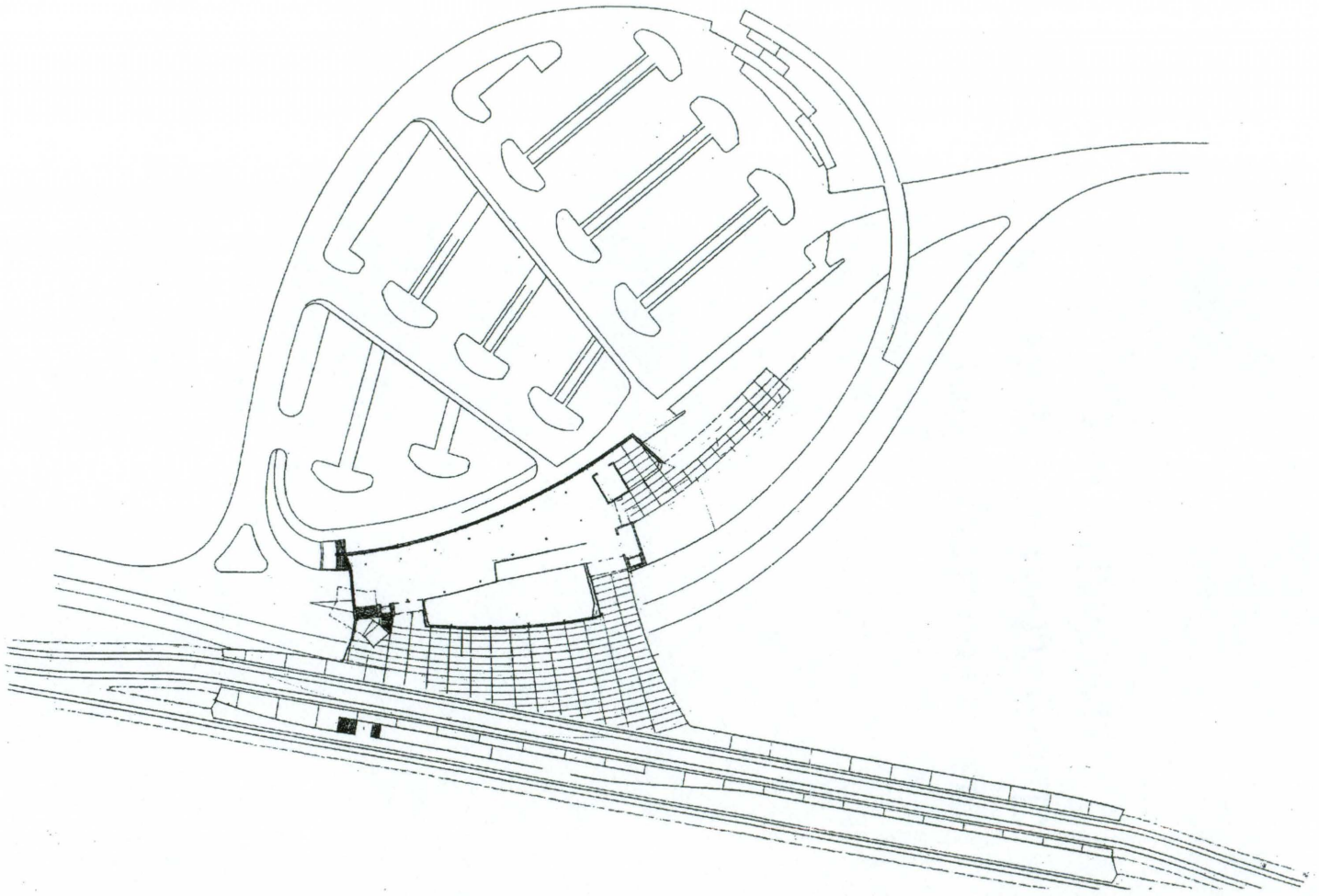
Study sketches. Initial site strategy is to preserve wooded area on southeast corner of site as connection to existing prairie east of Walnut ave. Bus and automobile traffic to enter at common entrance and then separate on site.



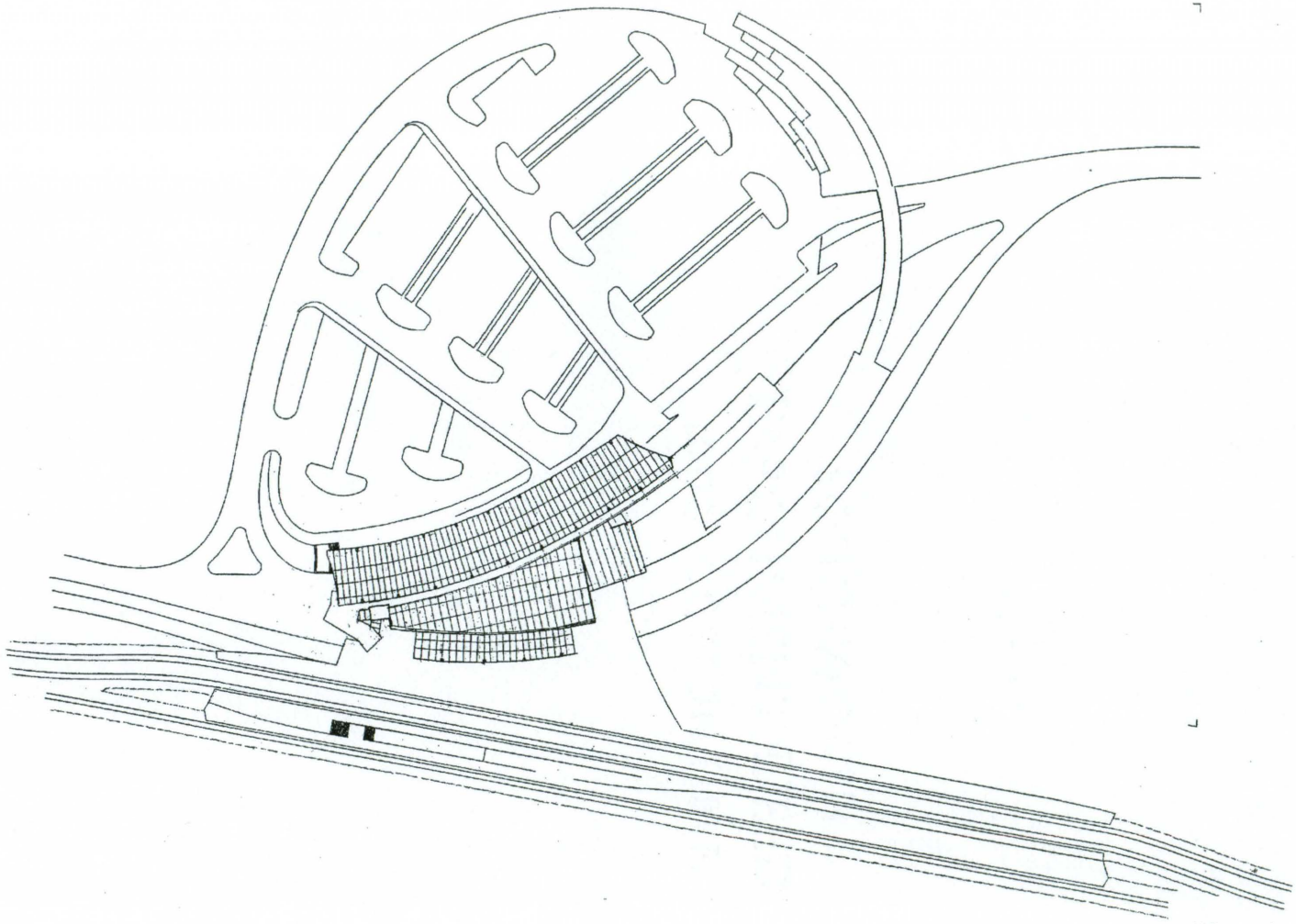
Site. Access to the site occurs in a one-way loop. Automobiles exit 355 at Ogden Avenue (eastbound) and then travel south on Walnut to the site. Metra is currently acquiring property to the west of tollway 355 for construction of the road which reconnects the site to Ogden avenue.



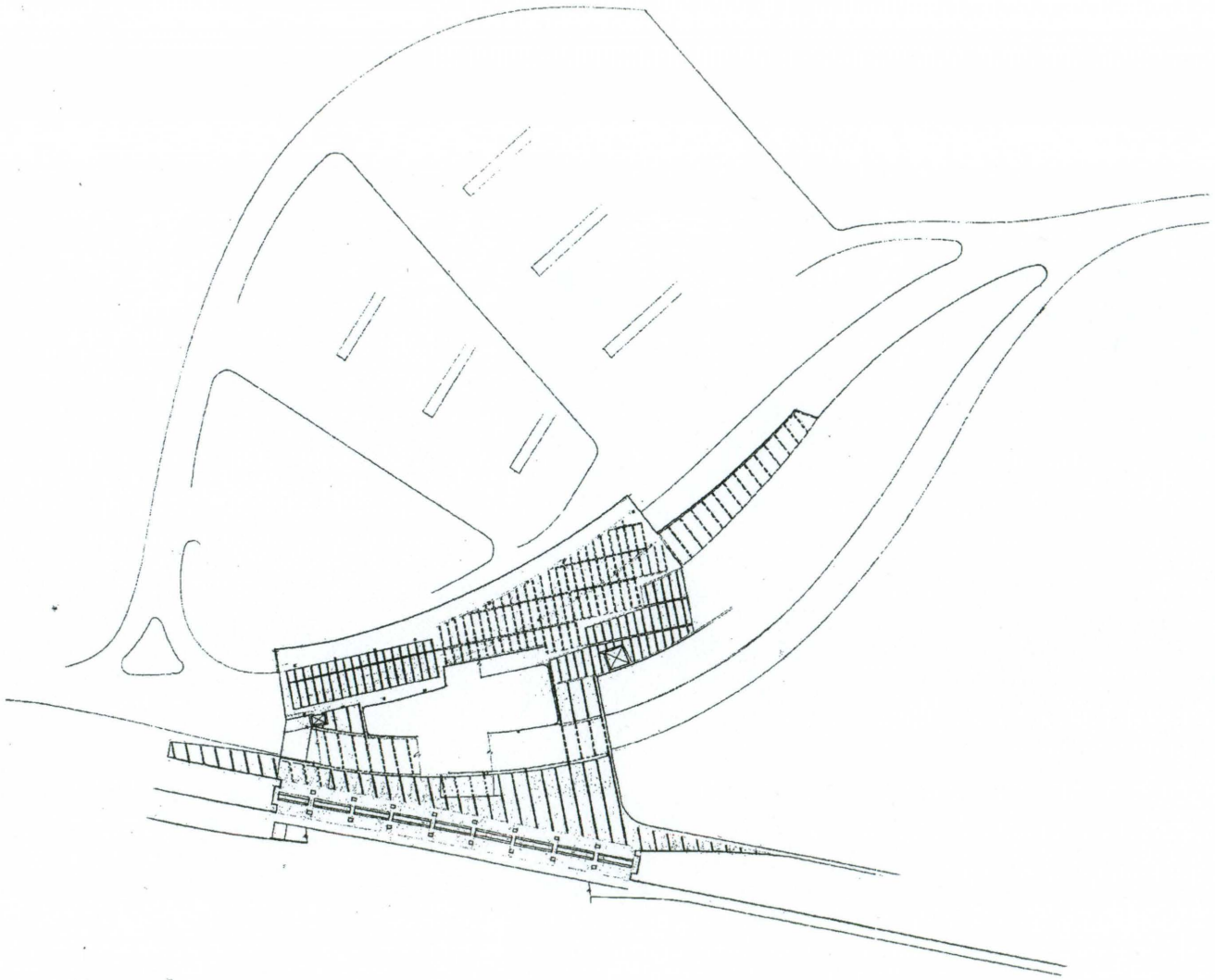
Plan: main level. Station occupies space between separated traffic flows of bus (to the south) and automobile (to the north). The ground floor serves as a collector space for pedestrians arriving or departing from automobile, bus, and train. Intent of such a space is to generate a density of activity with amenities immediately relevant to the needs of those moving between these three modes. It therefore operates as the first and shortest circuit of activity; i.e. the circuit for those with the least amount of disposable time. Puncture of the parking deck allows pedestrians to move directly to this collector space. Relevant amenities of this circuit might include e-mail stations, FedEx station and simple concessions.



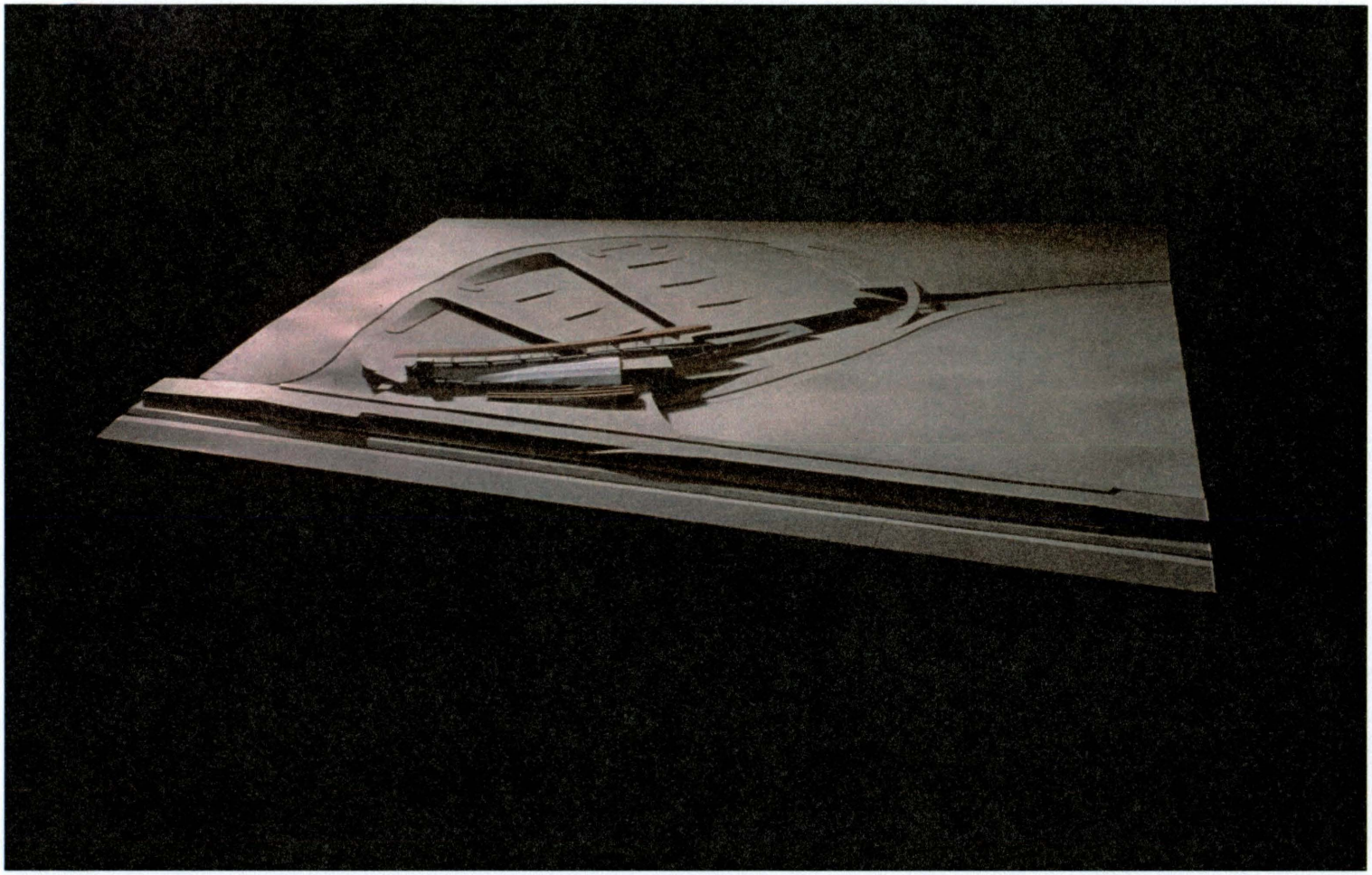
Plan: second level. The second level deck serves subsequent circuits of activity. Commuters exiting the train on this level may proceed immediately to the ground level or partake of the amenities of the second circuit. Such amenities, located on the deck overlooking the central space, might include grocery, laundry and copier services. Intent of such a space is that of a reservoir to the first circuit. That is, it operates for those with needs secondary to moving between the various modes of traffic and thus for those with a greater amount of disposable time. This second circuit adjoins the third: an outdoor space dedicated more to leisure than to business. This space therefore intersects the prairie site and indirectly reconnects itself with the parking. Amenities of this circuit might include seasonal recreational equipment such as cross country ski rental, concessions, or merely hiking maps of the adjacent prarie.



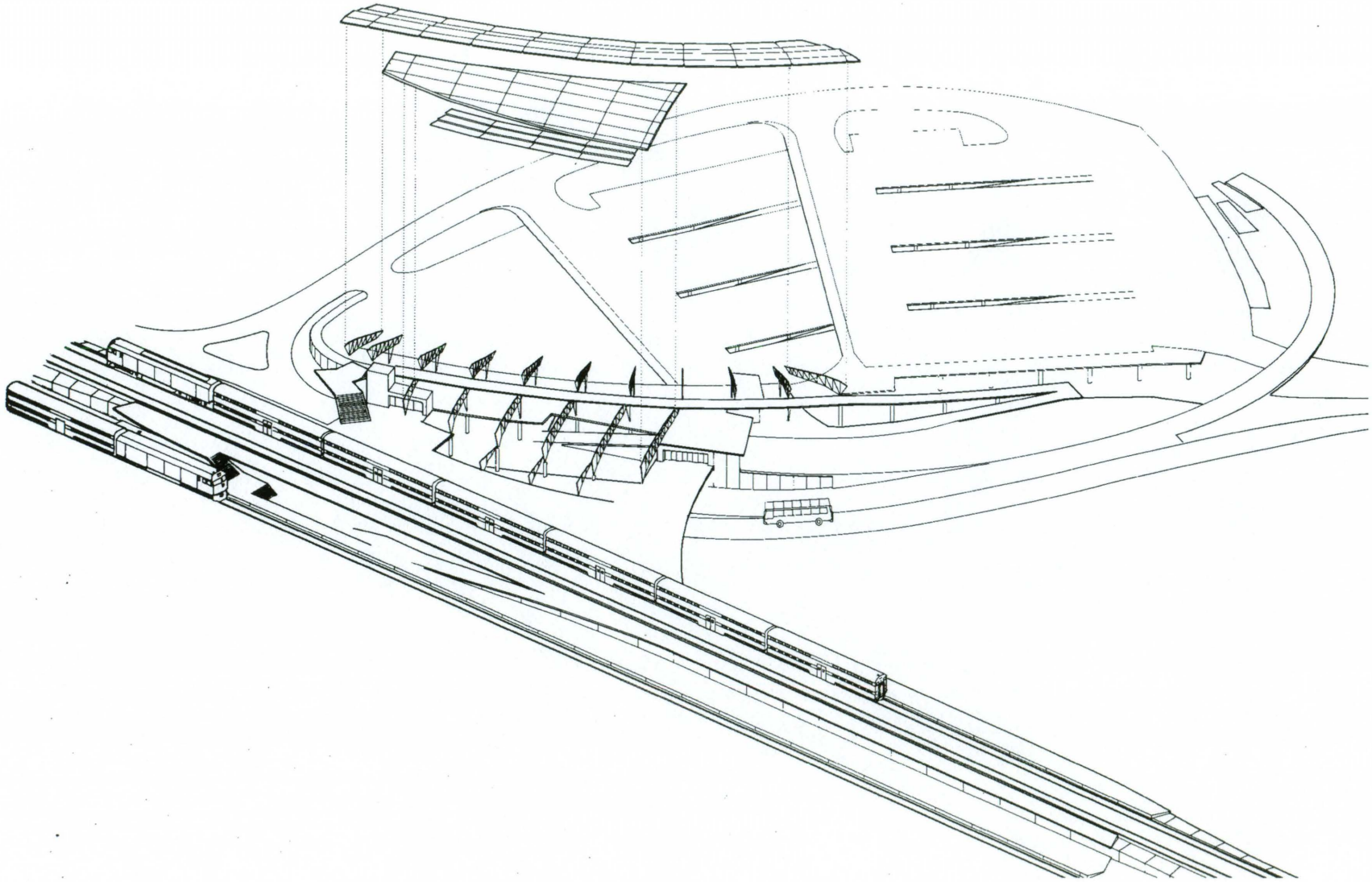
Roof plan.



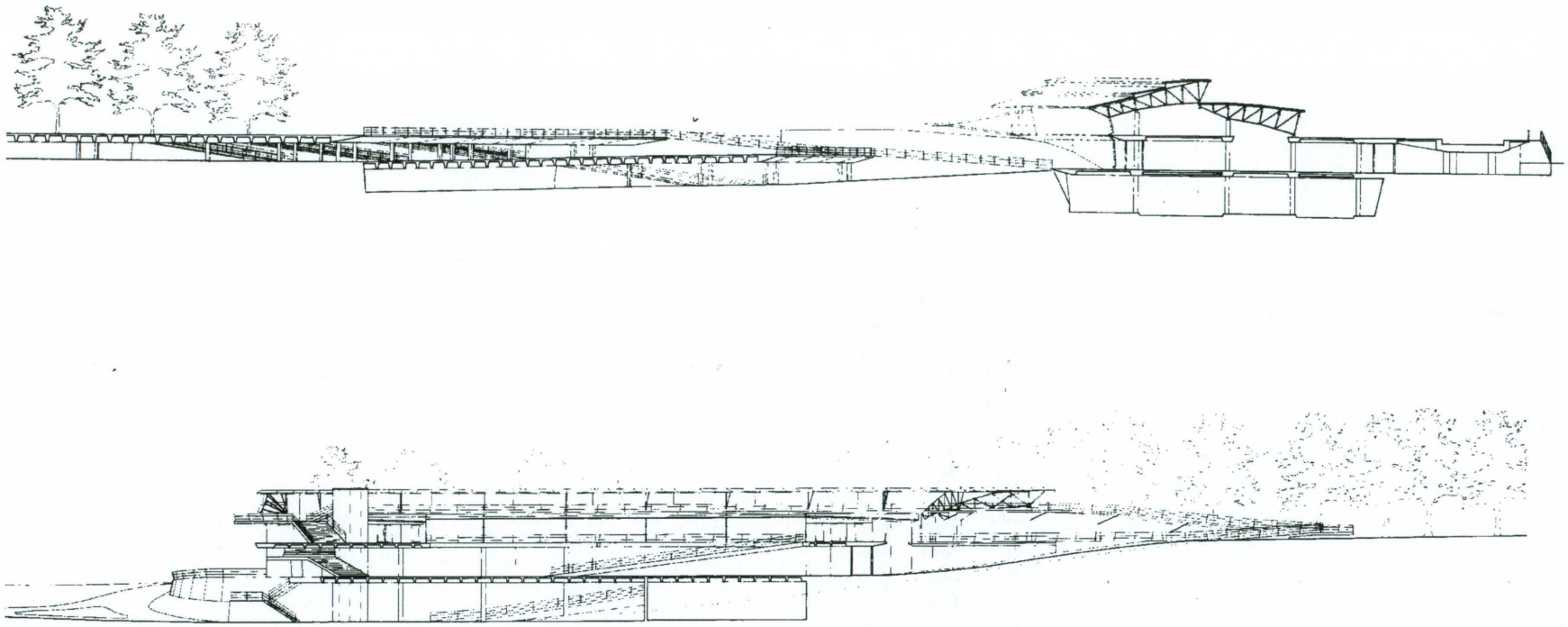
Reflected ceiling plan: parking and ground floor.



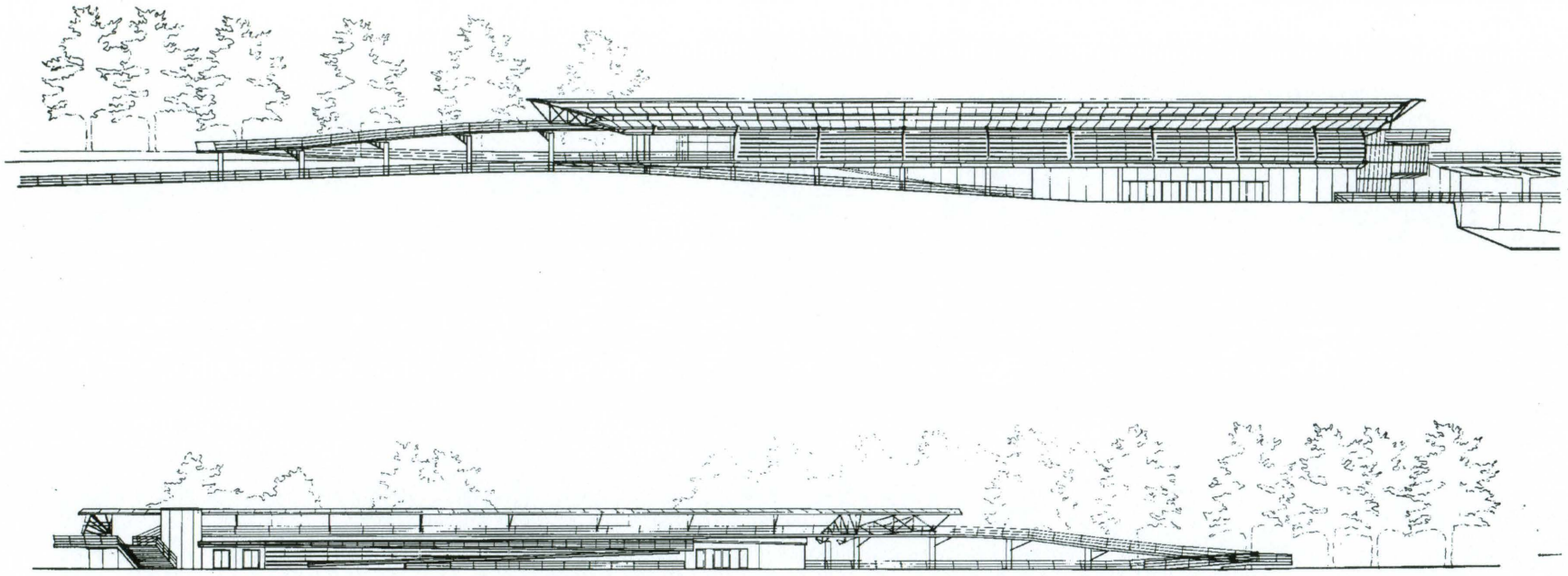
Model: chipboard. 1"=20'-0".



Exploded axonometric.



(upper)Transverse section.
(lower) Longitudinal section.



(upper) North elevation.
(lower) South elevation.

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